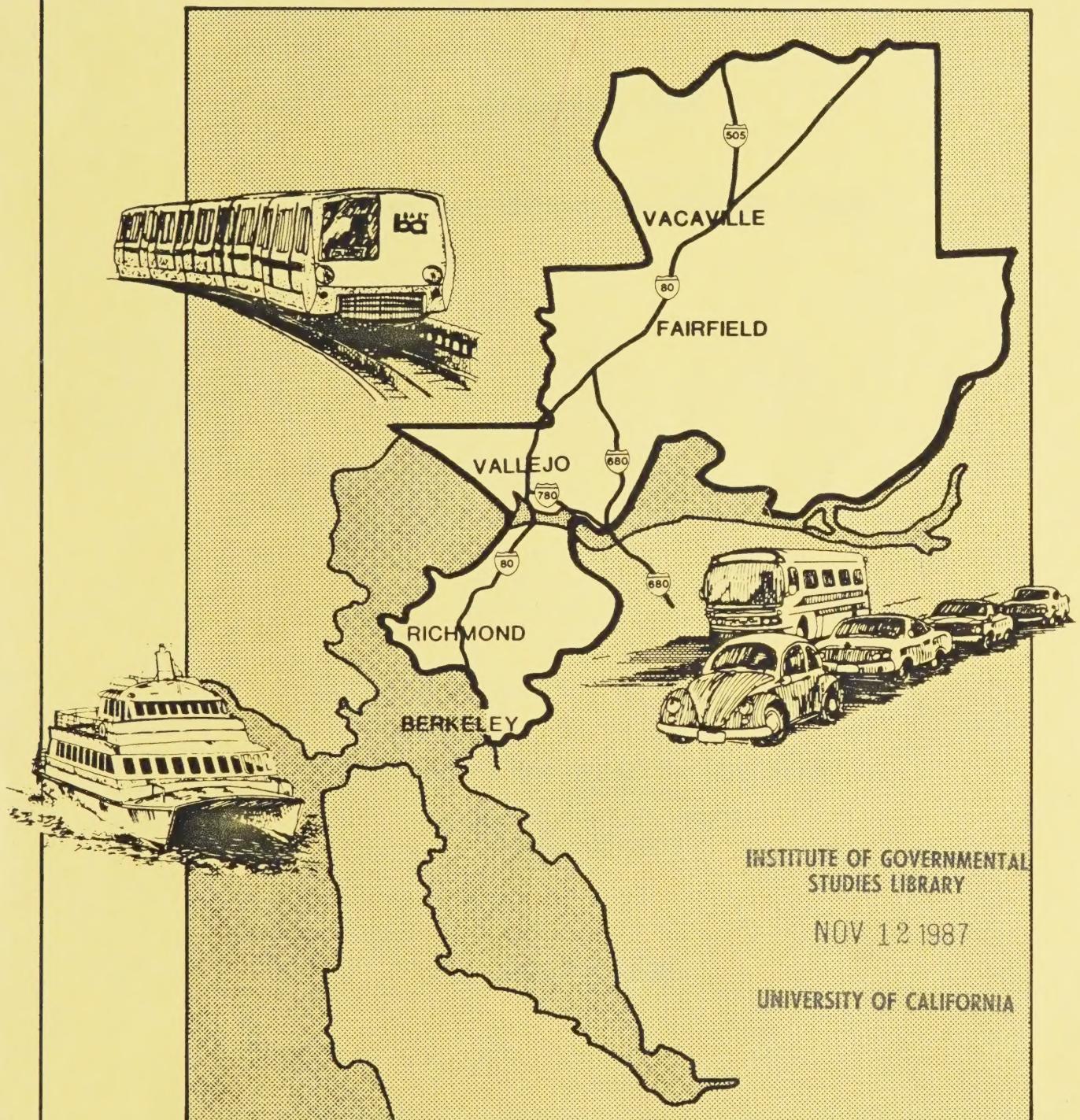


I-80 CORRIDOR STUDY

REPORT ON INSTITUTIONAL AND FINANCIAL ISSUES



MTC
METROPOLITAN
TRANSPORTATION
COMMISSION

FINAL
November 1987



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FINAL
REPORT ON INSTITUTIONAL AND FINANCIAL ISSUES

Metropolitan Transportation Commission
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November, 1987

I-80 CORRIDOR STUDY

REPORT ON INSTITUTIONAL AND FINANCIAL ISSUES

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I. INTRODUCTION AND EXECUTIVE SUMMARY

PURPOSE OF THE I-80 CORRIDOR STUDY

The I-80 Corridor Study was mandated by Assembly Concurrent Resolution No. 96, which was enacted in June 1986. ACR-96 instructs the Metropolitan Transportation Commission (MTC) to conduct a comprehensive transportation study of the San Pablo Corridor portion of Interstate Route 80 from the San Francisco-Oakland Bay Bridge through Solano County (see Figure 1). Participants in the study include Caltrans, local transit operators, cities and counties in the Corridor, transportation advisory groups and interested citizens. The study will examine deficiencies in the Corridor's transportation system, alternative solutions, and long-term and short-term financial and institutional options for implementing the solutions. ACR-96 directs MTC to submit its Final Report to the Legislature in December, 1987.

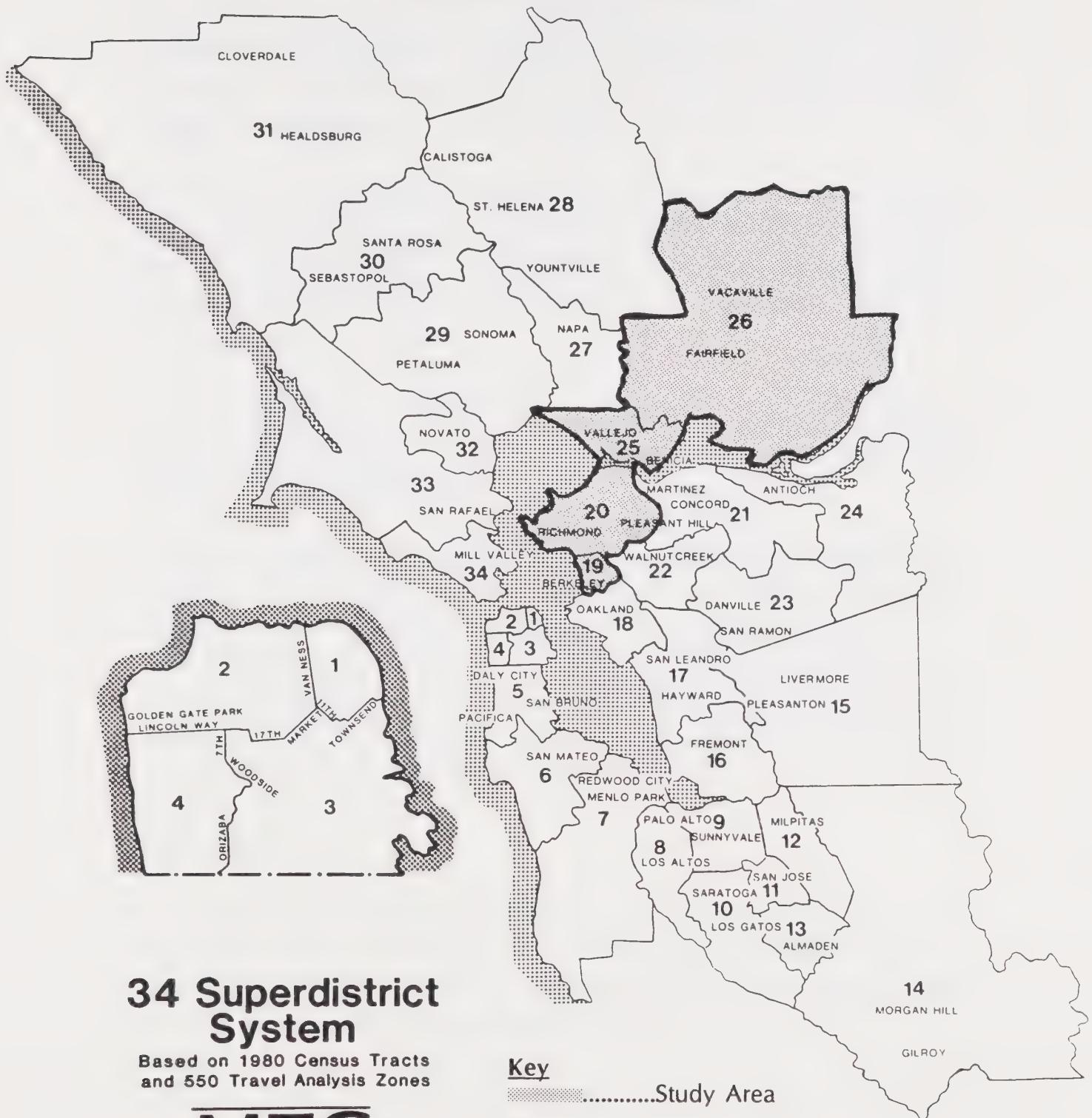
CONTENTS OF THIS REPORT

This report is the study's fifth and final technical report. It builds on information contained in the fourth technical report, Conceptual Definition of Long Range Improvements, by analyzing the options available to finance construction of the 12 long range improvements; it also explores the implications of various institutional arrangements that might be used to build and operate the future transportation systems.

Following this introduction and executive summary, this report presents an overview of the financial problem facing transportation in the Bay Area. Next, the report presents information on funding required to maintain and improve transportation in the Corridor (Section III), and the options for raising additional funds (Section IV). The final section presents a discussion of various institutional arrangements that could be used to implement the non-highway improvements identified in the Conceptual Definition report.

I-80 CORRIDOR STUDY

Regional Setting



34 Superdistrict System

Based on 1980 Census Tracts
and 550 Travel Analysis Zones



Key
..... Study Area

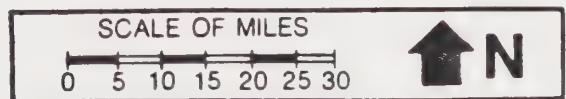


Figure 1

EXECUTIVE SUMMARY

Findings

- o The Bay Area is facing a large and growing discrepancy between the demand for transportation services and the amount of funding actually available. An additional \$146 million per year is needed for just repair and maintenance of local streets and roads.
- o The Bay Area also needs to spend \$1.5 billion over the next 20 years to replace existing transit capital facilities, such as buses, trains and maintenance buildings. Without a new source of matching funds, it may not be possible to both replace capital equipment and sustain existing levels of service.
- o In the I-80 Corridor, \$205 million is needed to complete partially funded highway projects, including \$130 million to complete the I-80 Operational Improvement (HOV) Project.
- o A variety of options exist for generating additional transportation funds in the Corridor, as shown in Table 1. The options include the following: a 1/2¢ sales tax increase, which would generate approximately \$22 million in FY 1987-88; a 5-cent gas tax increase, which would generate \$12 million in FY 1987-88; and a development fee on dwelling units, which would generate approximately \$11 million per year, assuming a \$2,500 fee per dwelling unit.

Recommendations

- o In addition to completing the improvements assumed in the Year 2000 Base Case, two of the options in the Conceptual Definition report should be implemented immediately: the Arterial System Improvements and the Benicia/Vallejo Express Bus System.

- o Arterial system improvements are needed, but state and federal participation in construction funding is inadequate. MTC advocates a continuing state and federal role in highway funding which would begin to make funds available for necessary improvements to the arterial system. MTC is developing the Regional Highway System (RHS) as a basis for advocating increased flexibility in highway funding.
- o Benicia and Vallejo should consolidate their separate express bus systems in order to create an efficient and effective service to BART. Increased patronage, operational efficiencies, and increased federal support may be sufficient to allow more frequent service on the consolidated system without additional local operating subsidies.
- o Caltrans District 4 should present a schedule for completing all 8 units of the I-80 Operational Improvement (HOV) Project to the I-80 HOV Advisory Committee, and the Committee should use this schedule to define a strategy to fully fund completion of the project. Alameda and Contra Costa Counties should stand ready to assist Caltrans in completing the design and engineering work for the HOV project so that it can successfully compete for interstate discretionary funding.
- o Caltrans District 4 should prioritize its facilities plan for maintenance and capital improvements on the Benicia Bridge and Carquinez Bridge, and in cooperation with and MTC develop a financial plan for the bridge improvements.

TABLE 1

POTENTIAL REVENUE FROM FUNDING OPTIONS (1)
 (Million \$, 1987-88)

AREA	<u>1/2¢ Sales Tax Increase</u>	<u>5¢ Gas Tax Increase</u>	<u>\$2,500 Fee Per Dwelling Unit (2)</u>
Berkeley-Albany Superdistrict	6.3 ⁽²⁾	2.50	0.635
Richmond-Hercules Superdistrict	6.9	3.85	2.205
Solano County CORRIDOR	<u>8.9</u> 22.1	<u>5.50</u> 11.85	<u>8.012</u> 10.852

(1) Revenue projections are specific to each of the Superdistricts that comprise the I-80 Corridor, with the two Superdistricts in Solano County combined. County-wide projections of sales tax and gas tax revenue are factored to Superdistrict based on proportion of population and jobs. Revenue from the dwelling unit fee is based on one-twentieth of growth in dwelling units from 1985 to 2005.

(2) Alameda County enacted a 1/2 ¢ sales tax increase in November, 1986, raising the county sales to 7%. The \$6.3 million refers to existing revenue, while the rest of the table represents new revenue. SB 142 sets a 7% maximum sales tax rate for all counties, so an additional sales tax increase in Alameda County is not possible at this time.

II. REGIONAL OVERVIEW

There is a large and growing discrepancy between the demand for transportation services and the amount of funds actually available. The Bay Area needs to expand its transportation system to keep pace with the growth in population and jobs, but expansion of the system is becoming increasingly difficult and expensive while state and federal funds are becoming increasingly scarce. This section presents a brief overview of the transportation funding problems facing the Bay Area.

HIGHWAY FUNDING

The primary source of highway funds at both the state and federal level is the per gallon tax on gasoline. The California gas tax was increased from 6-cents to 7-cents per gallon in 1963, and from 7-cents to 9-cents per gallon in 1983. During this same period, there were significant improvements in the fuel efficiency of automobiles, resulting in more cars driving more miles while using fewer gallons of gasoline (see Figure 2). Therefore, while increased travel placed increased demand on the road system, gas tax revenue generated per vehicle mile travelled was decreasing due to improved fuel efficiency and the absence of gas tax increases. The purchasing power of the revenues that were generated was reduced by inflation.

Demand for highway funds has increased for both maintenance and new construction. For example, between 1965 and 1985, Caltrans' annual expenditures of state funds doubled from \$475 million to \$963 million. During this period, the percent spent on Maintenance, Operations, and Administration increased from 16% to 59% of Caltrans' budget, while the percentage of state funds used to match federal grants remained constant at 13% (see Figure 3). The most dramatic change was the decrease in funding spent on state-only (as opposed to joint state-federal) funded capital improvements, which dropped from 54% in 1965 to only 5% in 1985. In effect, highway construction is now controlled by the availability of

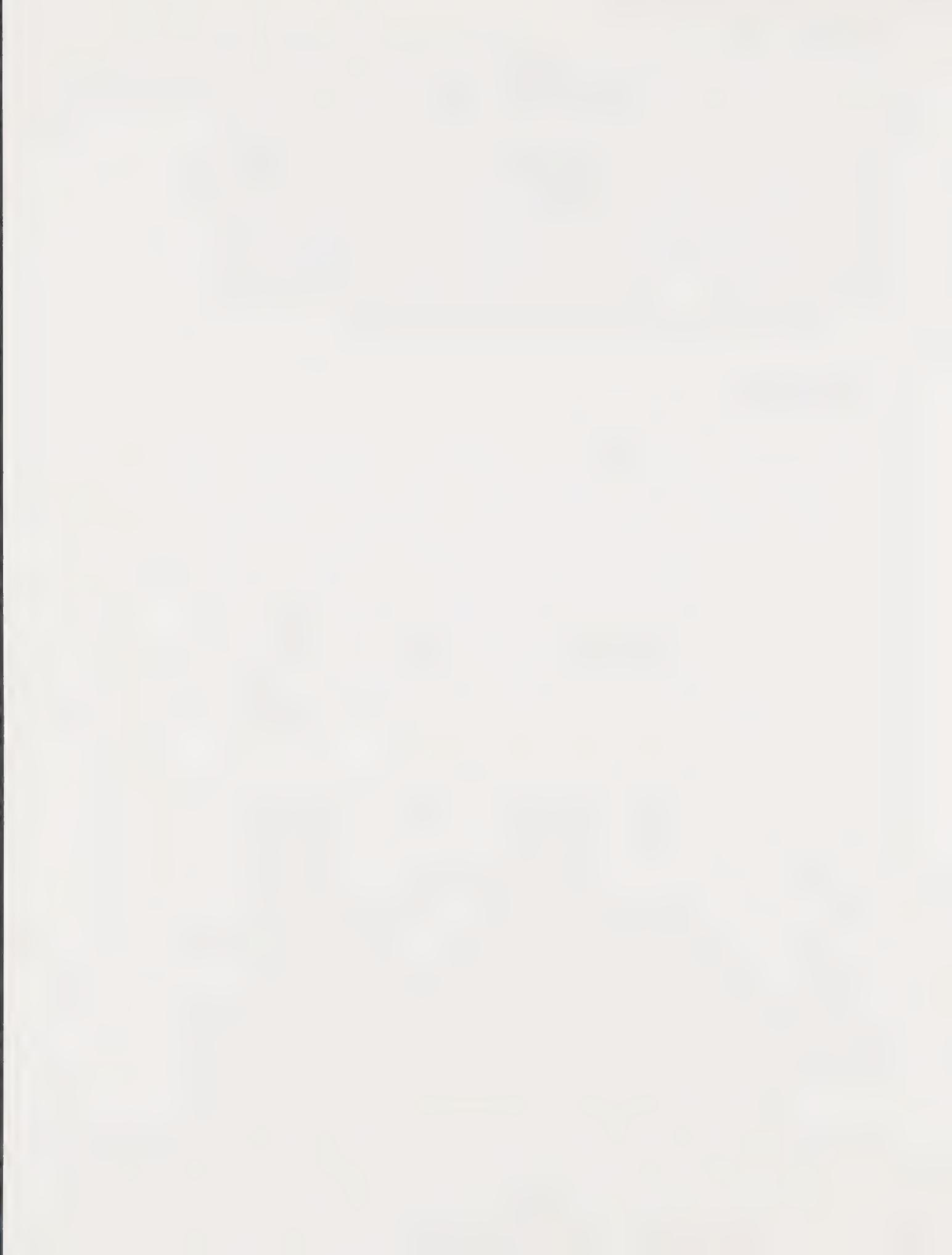


Figure 2

I-80 Corridor Study RELATIONSHIP OF TRAVEL AND STATE GAS TAX REVENUE

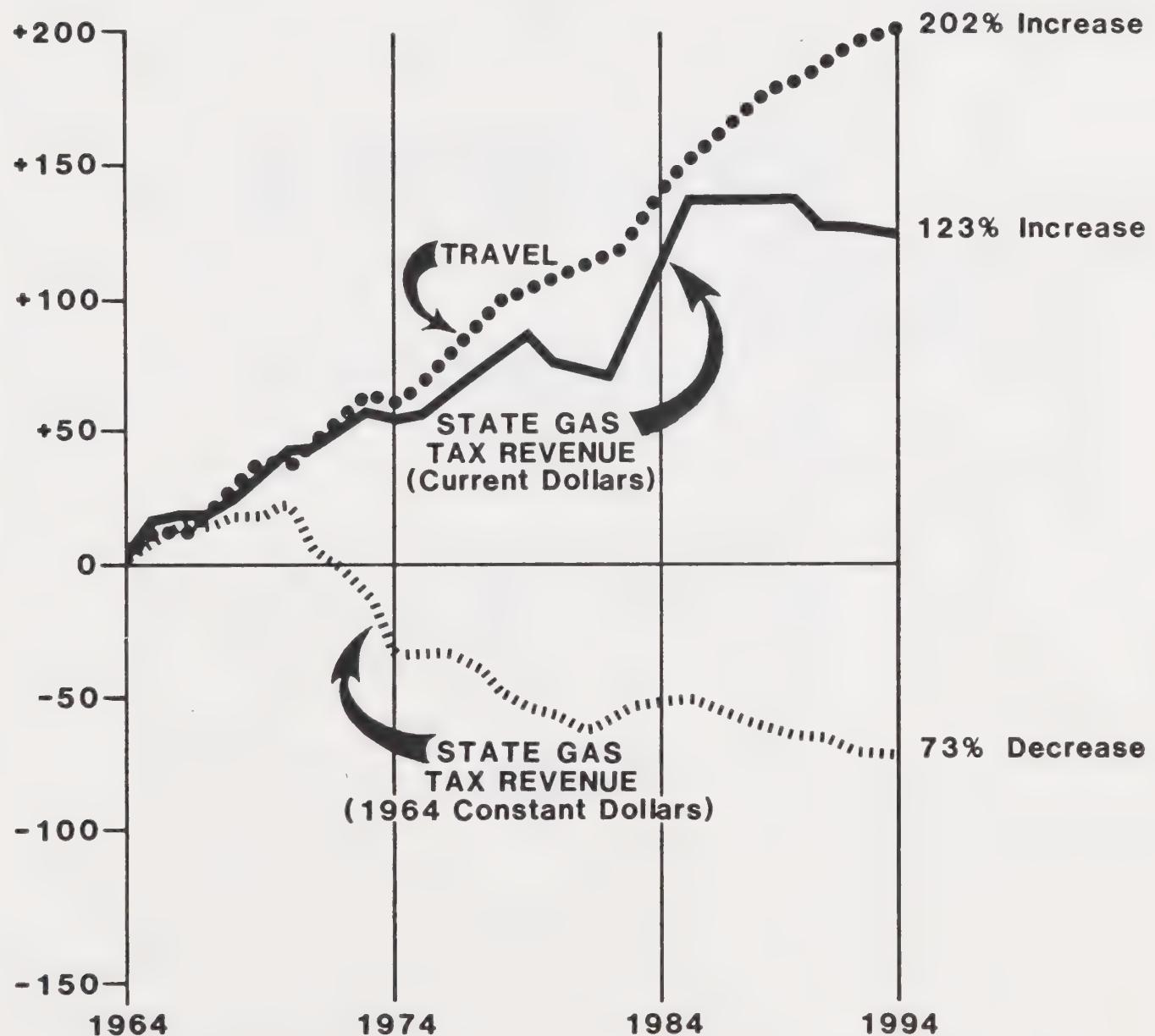
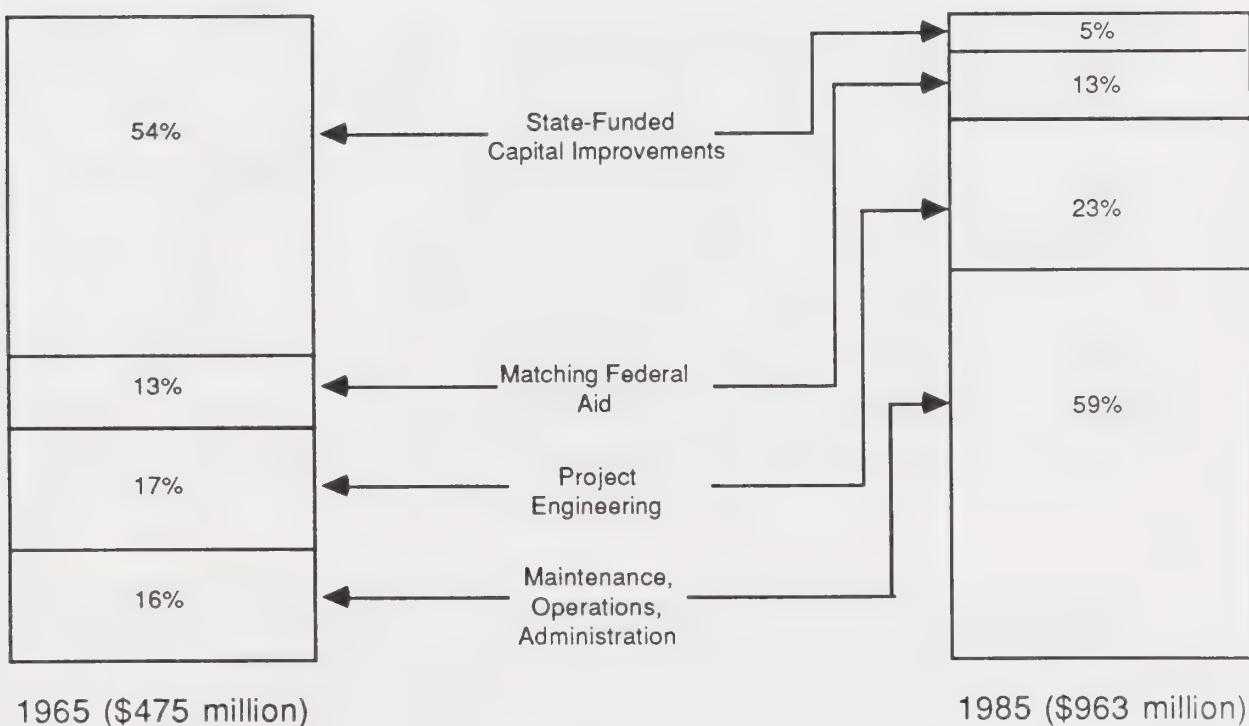


Figure 3

I-80 Corridor Study

CALTRANS EXPENDITURES 1965 COMPARED TO 1985

Use of State Highway Revenues



Source:

Hugh Fitzpatrick, Irvine Company – from California Division of Highways Report to Governor in 1964 and from Governor's 1984 Budget

federal funds, and there is no longer an independent, state-funded program. Indeed, unless there is an increase in state revenue within the next few years, California may have to defer highway maintenance projects in order to generate the matching funds necessary to secure federal highway funds. At present, the state is deferring landscaping projects and changing accounting procedures in order to generate the funds needed over the next two or three years to match the federal funds for highway construction.

There is a large backlog of highway construction projects. MTC identified a \$2.3 billion inventory of unfunded Bay Area highway projects in early 1987, but the region received only \$38 million in new highway construction funds in the 1987 STIP (State Transportation Improvement Program).

STREETS AND ROADS

Cities and counties in the Bay Area are projected to spend \$260 million during Fiscal Year 1987/88 to resurface and maintain local streets and roads. MTC estimates that an additional \$146 million per year is needed to properly maintain existing local roads and retire the \$400 million backlog in deferred maintenance that has accumulated since the passage of Proposition 13. When cracked pavement and potholes aren't repaired through a preventative maintenance program, water seeps through the road's surface and erodes the subsurface. Repairing subsurface damage is much more expensive than preventative maintenance. Therefore, this \$400 million backlog could ultimately require several times that amount to repair.

The major source of revenue for maintaining local streets and roads is the state gas tax. At present, 4.39-cents of the 9-cent state gas tax is returned to local governments. Over the past 25 years, the gas tax revenue available to local government has increased only 1-cent per gallon. As explained above, there has been a much faster increase in the number of vehicles and number of miles driven than there has been in the number of gallons of gasoline being sold.

Due to the absence of adequate public funding, construction of new local roads has largely become the responsibility of developers. It is often difficult for local governments to raise sufficient funds to widen existing roads or signalize intersections, resulting in the use of "development fees" to fund off-site improvements. However, fees from new development are seldom used for maintenance of roads in older neighborhoods, and are not expected to provide the \$146 million per year needed to properly maintain the existing public investment in local streets and roads.

TRANSIT

Transit providers in the Bay Area are facing conflicts between funding the operating costs of existing service, maintaining existing equipment, and the need to extend transit to currently unserved areas. In FY 1985-86, MTC allocated over \$213 million in transit operating subsidies to Bay Area operators. Inadequate operating funds may cause service cutbacks in future years.

MTC has estimated that over the next 20 years, approximately \$1.5 billion (in constant 1987 dollars) will be needed to replace existing transit equipment and facilities. This estimate is based on information provided by the Bay Area's nine largest public transit operators. If UMTA Section 9 funds are increased to keep pace with inflation, there appears to be sufficient funds to cover the federal portion of the replacement costs. However, the Reagan Administration has recommended cutbacks in transit funds in every budget proposal submitted to Congress, and cuts may result from the Gramm-Rudman deficit reduction process.

Even if federal funds are available, local funds may be insufficient to totally match the Section 9 grants. In the past, the Bay Area relied on several funding sources for local match, including the state TP&D Account (Transportation Planning and Development Account). In FY 1983/84, funds for transit from the TP&D account peaked at \$159 million, declining to \$30 million for FY 1987/88. It is not clear how much funding, if any, will be available to the Bay Area from TP&D to match federal funds in the future. Current local sources do seem sufficient to offset the loss of TP&D funds for some Bay Area operators. Unless a new source of matching

funds is made available, it may not be possible for all operators to both replace existing capital equipment and continue existing levels of service.

Separate federal sources are available for expansion of transit service, but local matching funds for service extensions and capital replacement come from the same sources. As indicated above, the local matching funds may not be adequate to meet the Bay Area's capital replacement needs. Other local sources will have to be generated for service extensions. MTC has identified a \$2.8 billion list of new rail starts and extensions, and estimates that 50% of this cost will have to be borne by local governments. To date, a 1/2-cent sales tax increase has been the focus of efforts to secure additional local funds. Alameda County recently passed a 1/2-cent sales tax increase which will be used in part for extending transit rail service from Hayward towards Livermore. In 1986, Contra Costa County failed to pass a 1/2-cent sales tax increase that would have been used to provide local funds for extensions of transit service, but another sales tax measure is being discussed.

POTENTIAL SOLUTIONS

In February 1987, MTC released a comprehensive package of proposed legislation intended to address the various transportation financing issues. This package includes proposals relating to gas tax increases, 1/2¢ sales tax increases, comprehensive bridge toll legislation, and use of PVEA (Petroleum Violation Escrow Account) funds. A variety of other proposals are also under consideration, including development fees, bonds for major highway construction programs, and removal of the State Highway Account from the Gann Initiative spending limits. Implementation of these proposals would solve most, if not all, of the existing transportation funding problem. However, it is not clear that sufficient consensus and political will exists at the state or regional level to implement these potential solutions.

In summary, a growing problem exists in transportation funding. Due to the increased fuel efficiency of automobiles, increasing demand for both maintenance and new construction, and the effects of inflation, existing

funding sources will not be adequate to meet future needs. Unless there is a greater commitment at the state and local level, the Bay Area will not be able to properly maintain the existing public investment in its transportation systems, much less expand the systems to keep pace with the growth in population and employment.

III FUNDING REQUIREMENTS

This section defines and quantifies the funding requirements of the transportation system in the I-80 Corridor. It begins with funding necessary to maintain and operate existing road, highway and transit systems. The section then addresses the need to complete partially funded highway projects, and reviews funding for projects on the Benicia Bridge and Carquinez Bridge. Finally, the costs of the projects in the Conceptual Definition of Long Range Improvements report are summarized.

A) COST TO MAINTAIN THE EXISTING TRANSPORTATION SYSTEMS

This section presents separate discussions of local streets and roads, state highways, and publicly owned transit systems.

STREETS AND ROADS

MTC's analysis of the maintenance of local streets and roads has documented that local governments are not spending enough money to adequately maintain local roads. A \$400 million backlog of local maintenance projects exists in the Bay Area, including \$191 million in the counties in the I-80 Corridor (\$113 million backlog in Alameda County, \$61 million backlog in Contra Costa Contra and \$17 million backlog in Solano County). Although the I-80 Corridor contains only portions of Alameda and Contra Costa Counties, those portions have the older cities and older roads, and probably represent a disproportionately high percentage of the maintenance needs. In order to retire the backlog of deferred maintenance and keep up with annual needs, local governments in Alameda County need to increase their annual expenditures from \$57 million to \$78 million, Contra Costa County local governments need to increase expenditures from \$31 million to \$56 million annually, and in Solano County, an increase from \$15 million to \$32 million is needed.

STATE HIGHWAYS

Caltrans places great emphasis on maintaining the state highway system. Each year, funds needed for maintenance are set aside prior to calculating the funds available for new construction and major reconstruction projects. On a statewide basis, Caltrans averages \$10,400 per lane-mile for annual maintenance. The I-80 Corridor has approximately 800 lane-miles of state highway (freeway and arterial), resulting in an annual expenditure of \$8.3 million. Although residents adjacent to certain highways, such as Ashby Avenue/Route 13, would argue that Caltrans needs to increase its maintenance expenditures, this study assumes Caltrans expenditures are appropriate.

TRANSIT

MTC has estimated that the Bay Area will need to spend \$1.5 billion over the next 20 years on transit capital replacement. This includes replacing rolling stock (buses, rail cars, etc.), maintenance yards, buildings and other capital assets. It does not include operating subsidies, or expansion of service to keep pace with increased population and jobs. The three largest operators in the I-80 Corridor - BART, AC Transit, and Vallejo Transit Lines - will require \$700 million of the \$1.5 billion total. Only a portion of BART and AC Transit's needs are for service in the I-80 Corridor, but any degradation in the capital stock of either operator would probably effect operations throughout their service areas. Service cutbacks may also result from a shortfall in operating subsidies for some Corridor transit providers.

B) PARTIALLY FUNDED PROJECTS

There are four major highway projects in the I-80 Corridor that are partially funded: I-80 Operational Improvement (HOV) Project; North Richmond Bypass; widening Route 37; and widening I-80 from I-505 to Pedrick Road. An additional \$205 million is needed to fully fund all four projects. Each project is discussed below:

I-80 OPERATIONAL IMPROVEMENT (HOV) PROJECT

The uncertainties surrounding full-funding for the I-80 Operational Improvement (HOV) project were described in the Report on Short-Term Solutions. The \$220 million I-80 project is eligible for FAI (Federal-Aid Interstate) funds, but the FAI program expires in Fiscal Year 1991-92. At present, only \$90 million of the \$220 million cost of the project is programmed.

The 1987 STIP, which includes the period from FY 1987-88 to FY 1991-92, includes \$1.8 billion in FAI programming. However, an additional \$400 million is needed to complete California's interstate system. This \$400 million includes the \$130 million needed for I-80, plus major portions of the Century Freeway and Harbor Transitway in Los Angeles. The 1987 STIP does not identify any funding source for the \$400 million.

In August, CTC (California Transportation Commission) initiated a new course of action intended to secure additional funding to complete the interstate system. The course of action entails significant risks but, if successful, will result in full-funding of the \$400 million in interstate completion projects. The risks are as follows:

- o California has indicated to FHWA that it will lapse \$255 million in backlogged FAI apportionments. FHWA has determined that California is eligible to compete with other states for FAID (Federal-Aid Interstate Discretionary) funds, but the state will have to obtain \$255 million in FAID just to break even. The level of FAID nationwide could be \$1.2 billion, depending on other states lapsing.
- o One of the key criteria in the competition for FAID funds is having a "ready-to-go" project. If the CTC's course of action is to be successful, Caltrans will have to complete its design and engineering work on schedule. Changes in state law to allow Caltrans to contract out design work will probably be necessary. SB 516 entails such changes, but was not enacted before the before the Legislature adjourned.

- o The new course of action emphasizes California's interstate system over non-interstate (Federal-Aid Primary and Federal-Aid Urban) projects, and probably will result in funding shortfalls and delays in design/engineering work for non-interstate projects during the 1987-1990 period.

If CTC's strategy is successful, California will be able to deliver its entire interstate program, including the \$400 million currently unfunded, with only a 1 or 2 year delay in non-interstate projects. The key to success will be the ability to accelerate design/engineering work. If Alameda and Contra Costa Counties can assist Caltrans District 4 in completing the design/engineering work on individual units of the I-80 Operational Improvement (HOV) Project, it would enhance the ability of those units to compete for FAID funding. Negotiations for Alameda County to assist Caltrans are underway.

In view of the importance of the design/engineering work, a schedule for the completion of that work for all eight units should be developed and reviewed by the HOV Advisory Committee. This schedule will have to be established before the HOV Advisory Committee can define a strategy for fully funding the Operational Improvement (HOV) Project.

WIDENING I-80, I-505 TO PEDRICK ROAD

In 1986, \$7 million was included in the STIP to widen I-80 from 6 lanes to 8 lanes between I-505 and Meridian Road during Fiscal Year 1990-91. In order to gain the full benefit of that widening, the remaining 6-lane bottleneck from Meridian Road to Pedrick Road needs to be widened to 8 lanes, at an estimated cost of \$13 million. It is assumed funding for this project will occur by the year 2000 through the normal STIP process.

ROUTE 37

Route 37 is currently a two lane highway between I-80 and the Sonoma/Solano County Line. Widening Route 37 to four lanes from I-80 to the Napa River Bridge has been partially funded as two separate projects. Widening from Mini Drive to Sage Street in Vallejo is fully funded at \$9.3 million in FY 1987-88 and 1988-89. Widening Route 37 from Diablo Street in Vallejo to the Napa River Bridge has been partially funded at \$15.3 million in FY 1990-91, but an additional \$23 million is needed to complete the project. This partially funded project runs through environmentally sensitive marsh areas. Full funding may not become available until Caltrans and other agencies agree on environmental protection and mitigation measures. Once those measures are accepted, full funding should occur through the normal STIP process.

NORTH RICHMOND BYPASS

The proposed North Richmond Bypass is a 4-to-6 lane arterial extending 8 miles from I-80 at the proposed Atlas Road interchange to I-580 (Knox Freeway) at Castro Street. The project has been partially funded using a combination of federal, state and private sector sources. An additional \$50 million is needed to complete the \$77 million project. Of the \$50 million, \$8 million is needed for the Atlas Road/I-80 interchange. Caltrans has agreed to provide 45% of the \$8 million construction cost of the interchange plus the \$700,000 design cost; adjacent local governments have agreed to fund the remaining \$4.4 million construction cost. Chevron has already paid \$5 million in construction costs, and is expected to contribute additional funds. However, a program has not been firmly established to provide the additional \$45 million needed to complete the facility.

C) TOLL BRIDGE IMPROVEMENTS

Major capital improvements have been proposed for both the Benicia Bridge and Carquinez Bridge. Specifically, a \$31 million widening of the existing Benicia Bridge and its southern approach is programmed for Fiscal Year 1987-88. Construction of a second span has been proposed at a cost of approximately \$300 million. The Carquinez Bridge has a relatively high annual

maintenance cost. Indeed, it may be cost-effective to immediately replace the older of the two spans (the southbound span, which is 60 years old) rather than pay its increasingly high annual maintenance cost. Replacement will be necessary within the next 10 to 20 years. Preliminary estimates of the cost of a replacement span are \$120 million. However, the cost estimates for both the Benicia Bridge and Carquinez Bridge do not include costs for capital outlay support or contingencies, which typically amount to 30% of the construction cost. Inclusion of these costs raises the capital investment needed to a total of approximately \$550-\$600 million.

Both maintenance and capital improvements on these bridges are funded by revenues from the toll bridge district that includes the Carquinez Bridge, Benicia Bridge, and Antioch Bridge. In order to finance the major improvements under consideration, construction bonds would be issued and the bridge tolls raised to retire the bonds. For example, MTC's preliminary estimates indicate that the toll on all three bridges would have to be raised from the current 40-cents to approximately \$1.00 per car to finance the \$350-\$400 million needed for the Benicia Bridge. The toll for trucks would also be raised by approximately 150%. In order to finance improvements to both the Benicia Bridge and the Carquinez Bridge, the toll increase would have to be even larger.

In response to recent legislative proposals authorizing construction of the second span of the Benicia Bridge, MTC has advocated developing a comprehensive financial plan for all state toll bridges in the Bay Area that addresses both maintenance requirements and capital improvements needed during the next twenty years. Caltrans is developing the information necessary to prepare a facilities improvement plan, and presented preliminary cost information to the California Transportation Commission in September, 1987. The next steps will be to prioritize the proposed improvements, and develop a plan for financing construction.

In addition to the financial considerations, other decisions should be made prior to the construction of a new span for either bridge. For example, if a second Benicia Bridge span is constructed to allow eight lanes of through traffic, and the approaches on either side of the bridge are also widened to accommodate the eight lanes, Amtrak's intercity service together with the Benicia/Vallejo express bus service would probably be adequate for the next 20 or 30 years. More frequent rail transit probably would become cost-effective sometime during the 50-80 year life of the new span, so provision for rail service should be considered in the design of the bridge. A similar argument applies to the need to provide for rail service in the design of the new westbound span of the Carquinez Bridge. Decisions on construction of new bridge spans should include careful evaluation of the impact on all modes of transportation in the Sacramento-to-Oakland corridor. Finally, expanded highway capacity across the Carquinez Straits may not be consistent with Solano County's efforts to develop its own employment because it would encourage Solano County residents to work in San Francisco and Contra Costa County. This impact should be thoroughly analyzed in the environmental documents prepared for the bridge projects.

The transportation and environmental studies may document the need for a new span for both bridges. It may not be practical to raise the bridge tolls high enough to finance construction of two new spans at the same time. In that case, the toll bridge construction projects would have to draw on some other source, such as State Highway Account funds that otherwise would be used for highway construction. However, the analyses in this report assumes that all bridge projects will be completely funded through construction bonds financed by toll bridge revenues.

D) LONG RANGE TRANSPORTATION IMPROVEMENTS

The previous three sections have addressed the financial resources needed to operate and maintain the existing transportation systems, complete existing partially funded projects, and construct toll bridge improvements. In addition, the I-80 Corridor Study has developed conceptual definitions for 12 long range transportation improvements. The Conceptual Definition of Long Range Improvements report identifies a variety of other highway and transit improvements that range from \$5 million in capital cost (Express Bus service) to \$1.1 billion (BART extension to Fairfield). Operating/maintenance costs range from \$100,000 to \$10 million per year.

In summary, the three counties in the I-80 Corridor are faced with funding requirements for a variety of transportation projects. These requirements include \$120 million/year to maintain existing local streets and roads, transit equipment, and state highways; a \$205 million list of partially funded highway projects; a list of toll bridge projects that probably exceeds the funding capacity of the toll bridge district by several hundred million dollars; and long-range improvements that range from \$5 million to \$1.1 billion.

The next section presents information on the existing and future funding sources that could be used to provide the required funding.

IV. EXISTING AND FUTURE FUNDING SOURCES

A) EXISTING RESOURCES

Table 2 presents estimates of annual funding flows for transit, highway, and local street and road projects. Most of the estimates are presented as a range, with the estimated maximum based on full funding of current federal and state programs and the estimated minimums based on budget proposals from the Reagan and Deukmejian Administrations. Estimates are provided by County where possible, but several sources are allocated for specific projects rather than being allocated by County, and are presented as Regional sources. The estimates are expressed as an annual estimate, but should be thought of as annual averages likely to occur during a 10 or 20 year period.

Specific requirements or commitments apply to different funding sources. As previously discussed in Section II, UMTA Section 9 funds and state STA funds (a part of the TP&D fund) are needed to meet the region's transit capital replacement requirements. UMTA Section 3 funds will be used on the region's New Rail Starts and Extensions program, and allocation of these funds will depend on which specific projects are implemented. Net bridge toll revenue, which results from toll increases initiated by MTC in 1977, are usually used as local matching funds for federal grants and therefore their allocation to BART, AC Transit and MUNI will also depend on which specific projects are implemented. However, it is assumed that 70% of the bridge toll revenue will go to Alameda and Contra Costa Counties.

As shown in Table 2, the three counties in the I-80 Corridor are expected to receive \$51-\$64 million/year in highway funds, while the region's annual funds for transit could be in the \$69-\$222 million range.

Table 2 does not include the "Measure B" 1/2¢ sales tax passed by Alameda County in 1986. The 1/2¢ sales tax is addressed in the next section.

TABLE 2
ESTIMATED FUNDS FROM EXISTING SOURCES
(\$ Millions, 1987)

County	REGIONAL SOURCES*				COUNTY SOURCES*				FAU(7)				
	SEC. 3(1)		SEC. 9(2)		STA(3)		State Guideway(4)		State Bridge Tolls(5)		Highway(6)		
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	
Alameda							6.5	0			29.9	23.0	5.0
Contra Costa	Project Specific Funds				Funds Required to sustain the Existing System		4.0	0	8.0		17.6	13.5	2.9
Solano							0	0			7.4	5.7	1.0
ANNUAL TOTAL	(77.0)	(0)	(106.5)	(60.8)	(20.5)	(0)	10.5	0	8.0		54.9	42.2	8.9
5 Year Total	(38.5)	(0)	(532.5)	(304.0)	(102.5)	(0)	52.5	0	40.0		274.5	211.0	44.5
10 Year Total	(777.0)	(0)	(1065.0)	(608.0)	(205.0)	(0)	105.0	0	80.0		549.0	422.0	89.0
20 Year Total	(1540.0)	(0)	(2130.0)	(1216.0)	(410.0)	(0)	210.0	0	160.0		1098.0	844.0	178.0

*Regional sources are allocated based on specific projects, rather than allocation by county; regional totals are in parentheses.

Notes:

1. The maximum regional total is based on 10% of national Rail Mod and New Starts appropriations. Funds for individual counties dependent on which specific projects are implemented.
2. These funds are used to sustain the existing system. This includes up to \$30 million for operations and up to \$76 million for capital replacement.
3. These funds are divided between the transit operators (for operating assistance) and MTC (for capital match for federal funds). Allocations by MTC are based on the 5-Year Capital Improvement Program.
4. This represents a population share of Prop. 5 funds based on a maximum \$100 million statewide program. Actual funds are allocated by the CTC 50% on population and 50% discretionary to individual projects.
5. These funds are allocated for transit capital projects. Seventy percent to Alameda and Contra Costa Counties, 30 percent to San Francisco.
6. This represents county minimum funds at the minimum level and 1.3 times county minimum at the maximum level.
7. This is based on current federal apportionment factors.

Source: MTC (May 1987)

B) FUTURE REVENUE OPTIONS

1/2¢ SALES TAX

A 1/2¢ increase in the sales tax is a widely discussed source of new transportation funds. This tax increase has been passed by voters in Alameda and Santa Clara Counties, was defeated in Contra Costa County, and has been actively discussed elsewhere in the Bay Area and state.

Table 3 presents MTC's analysis of revenue from a 1/2¢ sales tax for Alameda, Contra Costa and Solano Counties. If each county had passed a 1/2¢ sales tax increase that became effective July 1, 1987 and lasted 15 years, Alameda County would generate \$990 million, Contra Costa would generate \$590 million, and Solano County would generate \$194 million for a total of \$1.77 billion. Table 3 also indicates estimates of the portion of the countywide sales tax increases that would accrue to the four Superdistricts that make up the I-80 Corridor. The 15-year total for the Corridor is \$452 million

TAX ON NEW RESIDENTIAL DEVELOPMENT

Another frequently discussed source of new transportation funding is a tax on new development, to use for off-site improvements. In view of the imbalance between workers and jobs in the corridor and the desire of local governments to attract in jobs, it is assumed the fee would be applied only to new residential units. In reality, some jurisdictions may not wish to tax new residential development. A \$2,500 fee per dwelling unit is used for illustrative purposes. As indicated below, ABAG's PROJECTIONS 85 forecasts a sizeable increase in dwelling units in each of the four Superdistricts in the Corridor:

<u>SUPERDISTRICT</u>	<u>Increased Households 1985 - 2005</u>	<u>\$2,500 per Unit</u>
S.D. 19. Berkeley/Albany	5,079	\$ 12.7 million
S.D. 20. Richmond/Hercules	17,638	\$ 44.1 million
S.D. 25. Vallejo/Benicia	13,894	\$ 34.7 million
S.D. 26. Fairfield/Vacaville	50,202	\$125.5 million
CORRIDOR TOTAL	86,813	\$217.0 million

TABLE 3

REVENUE FROM 1/2¢ SALES TAX INCREASE
 (\$ Millions)

<u>AREA</u>	<u>1/2¢ SALES TAX REVENUE</u>			<u>15-YEAR TOTAL</u>
	<u>1987-1988 TAXABLE SALES⁽¹⁾</u>	<u>1987-1988</u>	<u>2001/2001⁽²⁾</u>	
Alameda County	10,704.9	52.2	76.9	990
o Berkeley-Albany ⁽³⁾ Superdistrict		6.3	9.2	116
Contra Costa	5,898.6	28.8	50.2	590
o Richmond-Hercules ⁽⁴⁾ Superdistrict		6.9	12.0	142
Solano	<u>1,815.8</u>	<u>8.9</u>	<u>17.0</u>	<u>194</u>
TOTAL				
o Three County Total	18,419.3	89.9	144.1	1774
o I-80 Corridor Total		22.1	38.2	452

(1) Estimated taxable sales

(2) Revenue from additional 1/2¢ sales tax, assuming no inflation but reflecting growth in population and income

(3) Revenue estimate for Berkeley-Albany Superdistrict (S.D. 19) is based on the Superdistrict's 12 percent of total population and jobs in the County in 2005, based on PROJECTIONS '85; the revenue represents existing revenue from Measure B (1986), while the rest of the table refers to new revenue.

(4) Revenue estimate for the Richmond-Hercules Superdistrict (S.D. 20) is based on the Superdistrict's 24 percent of total population and jobs in the County in 2005, based on PROJECTIONS '85

Source: MTC (1987)

As indicated above, a \$2,500 fee per unit would generate a total of \$217 million over the next 20 years, or an average of \$10.8 million per year. Over half of this revenue would be generated by the Fairfield/Vacaville Superdistrict, where rapid residential growth is forecast.

Use of a development fee would have several negative impacts. It would discourage housing construction, and make the housing that is constructed less affordable. This would aggravate the shortage of affordable housing in the Bay Area, which ABAG foresees as the primary obstacle to continued growth in the regional economy.

GAS TAX

Sale of gasoline and diesel for use as motor vehicle fuel is taxed by the State at 9-cents per gallon. Of this, 4.61-cents is allocated by law for state highway construction and maintenance, and the remaining 4.39-cents is allocated to cities and counties using formulas based on population and vehicle registration.

Projections of new revenue from a 1-cent and 5-cent increase in the per gallon tax on motor vehicle fuels are in Table 4. The projections are shown by county and Superdistrict, but represent the total increase in revenue rather than the revenue accrued by the county. Distribution of the new revenue would not have to conform with the current state-to-local government ratio. Based on a model developed for the California Energy Commission, gasoline consumption is projected to decrease by 22% between 1980 and 2000. Consumption of diesel fuel was assumed to increase 3.4% per year, which in turn assumes a 3% long-term growth rate in the national economy. Due to the decrease in consumption of gasoline, the revenue declines between 1987-1988 and 1996-1997 (See Table 4.)

The three counties in the I-80 Corridor would receive \$8.47 million per penny increase in the gas tax in 1987-1988. A five-cent increase would generate \$42 million in 1987-1988, decreasing to \$35 million in 1996-1997. If all this revenue was available to the cities and counties, it would pay for over half the increase in funding needed to properly maintain local streets and roads.

TABLE 4

REVENUE PER COUNTY FROM A GAS TAX INCREASE
 (\$ Millions)

<u>Area</u>	<u>1987-1988</u>	<u>1996-1997</u>	<u>10-Year Total</u>
Alameda County	4.16	3.34	37.01
o Berkeley-Albany* Superdistrict	0.50	0.40	4.44
Contra Costa	3.21	2.70	29.19
o Richmond-Hercules* Superdistrict	0.77	0.65	7.01
Solano	<u>1.10</u>	<u>1.04</u>	<u>10.68</u>
3-County Total	8.47	7.08	76.88
I-80 Corridor Total	2.37	2.09	22.13
5-Cent Corridor Total	11.85	10.45	110.65

*The Berkeley-Albany Superdistrict is assumed to generate 12% of Alameda County's gas tax revenues, and the Richmond-Hercules Superdistrict is assumed to generate 24% of Contra Costa County's gas tax revenue, based on factors presented in Table 3

GANN INITIATIVE SPENDING LIMIT

The 1979 Gann Initiative established a limit on government expenditures, with annual adjustments in the limit based on population increase, and the lesser increase in the U.S. Consumer Price Index or California per capita personal income. The state budget has reached the Gann limit, resulting in legislation to return approximately \$1.1 billion to taxpayers. Solutions to the Gann spending limit fall into two basic categories: use of bonds, and ballot measures to modify the Gann limit.

Bond Financing

Revenues dedicated to pay debt service on voter approved bonds are exempt from the Gann limit. The concept of using bonds to finance California's transportation needs was discussed during the 1987 legislative session, including a \$2.3 billion proposal from Governor Deukmejian and a \$3.3 billion proposal by Assemblyman Katz. The advantages of bonds include the ability to generate large amounts of money in a short period of time so that needed projects don't have to wait for funds to become available, and the ability to avoid inflation in construction costs. There have been different proposals for servicing the bond indebtedness, including use of general fund and gas tax revenue. Assemblyman Katz has indicated that a gas tax increase would not be necessary, but could be used to retire the debt earlier. The primary disadvantage of bonds is that 25%-40% of the bond proceeds are spent on interest payments and commissions, thus providing less purchasing power than the traditional pay-as-you-go method. Also, it would take Caltrans several years to spend the extra money due to the long lead time needed to deliver highway projects, which would dilute the benefit of generating a large sum of money at once.

Ballot Measures

There are several ballot proposals for modifying the Gann spending limit. Legislative proposals are aimed at the annual adjustment, which currently looks at the lesser of the National Consumer Price Index (CPI) or per capita personal income in California. Over the years, California's personal income has grown much faster than the CPI. The Legislature is considering proposed Constitutional Amendments to tie the Gann limit to growth in California's personal income.

Efforts are underway to qualify two separate citizen initiatives for the ballot. Both initiatives would define the gas tax as a user fee, exempting those revenues from the Gann limit. One of the measures would also declare sales tax on gasoline to be a user fee, and require dedication of those revenues to transportation.

V INSTITUTIONS ISSUES

Sections III and IV addressed funding requirements and revenue options on a Corridorwide basis. This section looks at both the opportunities and constraints associated with public agencies that finance, construct and operate new transit improvements. This section addresses improvement options in the Conceptual Definition of Long Range Improvements, except for the three highway options (Improvement 1 - Year 2000 Base Case; Improvement 2 - Highway Improvements; and Improvement 4 - I-80 Bus Facility Improvements) which Caltrans would implement, using its existing institutional structure and funding sources. This section begins with a discussion of the arterial system, and then discusses express bus, Amtrak, BART, LRT/Commuter Rail and ferry transit service.

A) ARTERIAL IMPROVEMENTS

EXISTING SETTING

The Conceptual Definition report included the option of upgrading 10 existing arterials, plus completion of the North Richmond Bypass. The arterial network would provide an important, non-freeway alternative to I-80 for local trips. The cost of upgrading the 10 arterials is \$105 million. Most of the arterials run through several cities, creating a need to coordinate the design and funding of the improvements. The design issues need to be worked out on a project-by-project basis. This section focuses on financial issues.

Regional Highway System

MTC is advocating a new concept called the Regional Highway System (RHS) to provide greater flexibility in using federal and state highway funds. Federal highway funds are currently appropriated according to specific categories, (i.e., Interstate, Primary, Urban, etc.). Once the Interstate System is completed and the current federal funding authorization expires in 1991, it is uncertain what role the federal government will have in funding transportation

programs. MTC is advocating that the federal government maintain its commitment to transportation and allow the use of federal highway funds to be based on transportation needs and local policies, rather than existing funding categories.

MTC, in cooperation with the Bay Area's cities and counties, is defining which routes should be included in the RHS network. Candidates for inclusion, based on preliminary criteria, would be major routes that improve mobility within and between urban areas, provide an alternative to freeway travel or connect other major routes. These routes would be eligible for federal funds for new construction, rehabilitation and operational improvements; local and State funds would be used for maintenance of roadways. Establishing the Regional Highway System would be a major step towards implementing the arterial improvements presented in the Conceptual Definitions report.

B) EXPRESS BUS SYSTEM

EXISTING SETTING

Four different public agencies currently provide express bus service in the I-80 Corridor. They are the City of Vallejo, City of Benicia, BART, and AC Transit.

City Of Vallejo Transit System

The City of Vallejo provides fixed route transit service within the City and to the El Cerrito del Norte BART station. The City contracts with Vallejo Citizens Transit Corporation (a private-for-profit corporation) for the day-to-day operations and management of the system. The City of Vallejo's locally elected City Council is the policy body for the City's transit system. Service between Vallejo and BART began on September 28, 1987, and operates between 6:00 a.m. and 8:00 p.m., Monday through Friday. The service operates express (non-stop) bus service between Vallejo and the BART station during the morning and evening peak periods. During the off-peak hours, the service makes stops in the City of Crockett and at Hilltop Mall in Richmond. During

the morning peak hours, the service operates every 15 minutes between 6:00 a.m. and 7:00 a.m. and every 30 minutes between 7:00 a.m. and 9:00 a.m. Off-peak buses run hourly until 3:00 p.m., and then every 30 minutes until 5:00 p.m. During the evening peak period, service operates every 15 minutes between 5:00 p.m. and 6:00 p.m., and then hourly until 8:00 p.m. The City of Vallejo's transit services are funded with state, local and federal funds. The City's FY 1987-88 proposed operating budget for its fixed route transit system is as follows:

Total Operating Cost: \$2,355,224

Revenues:

Fare Revenues (% farebox)	662,100 (28.1%)
TDA Funds	1,196,657
STA Funds	251,225
UMTA Sections 9 & 8	245,242

The express bus to BART is expected to cost \$391,000 to operate, and is projected to receive \$140,000 in fare revenue.

City of Benicia Transit System

The City of Benicia provides fixed route transit services within the City of Benicia, between Benicia and Vallejo, and between Benicia and the Pleasant Hill BART station. The Benicia City Council serves as the policy board for the City's transit systems. The City contracts with private-for-profit providers for the day-to-day operations of its transit systems.

The City's "Benicia Bay Connection" provides service from Benicia to both the Sun Valley Mall in Concord and the Pleasant Hill BART station. The service operates Monday through Friday between 6:00 a.m. and 8:00 p.m. and on Saturdays between 10:00 a.m. and 7:00 p.m. Buses operate approximately 30 minutes apart during the morning and evening peak hours and between 60 and 90 minutes apart during the mid-day.

The City's "Benicia-Vallejo Stageline" operates within Benicia and provides service to Vallejo. This service operates Monday through Saturday between 7:00 a.m. and 7:00 p.m. Buses operate approximately 30 minutes apart during the morning and evening peak and up to two hours apart during the mid-day. Benicia's transit services are funded with state and local funds. The City does not claim federal transit funds. The City's FY 1987-88 proposed operating budget for these services is as follows:

Total Operating Cost:	\$279,915
Revenues:	
Fare Revenues (% farebox)	53,515 (19.1%)
TDA Funds	226,400

The Benicia Bay Connection is projected to cost \$198,000 to operate, with \$39,600 in fare revenue.

BART Express Bus Service

BART's express bus services are governed by the elected nine-member BART Board of Directors. BART currently contracts with AC Transit for its express bus services.

BART operates two express bus routes (the "J" and "Q" routes) in the Western Contra Costa County area. The "J" route operates between Rodeo and the El Cerrito del Norte BART station making stops in Hercules, Pinole, San Pablo, Richmond and El Cerrito. The "J" line operates Monday through Friday between 5:30 a.m. and 12:30 a.m. and on Saturday between 6:00 a.m. and 12:30 a.m. Buses on this route operate approximately 30 minutes apart, Monday through Friday, and 60 minutes apart on Saturdays.

BART's "Q" express bus route provides service between El Sobrante and Pinole and the El Cerrito del Norte BART station. This service operates only during peak commute hours, 5:30 a.m. to 9:00 a.m. and 2:30 p.m. to 7:00 p.m.; Monday through Friday. Buses operate 30 minutes apart during these times.

AC Transit

The Alameda-Contra Costa County Transit District's (AC Transit) transit services are governed by an elected seven-member AC Transit Board of Directors. AC Transit operates express bus service (Routes "L", "L1A", "L1B") to the El Cerrito del Norte BART station, and then on to San Francisco. In addition, AC Transit operates local bus service between Crockett and the El Cerrito del Norte BART station via San Pablo Avenue (route 70A).

FUTURE OPTIONS

Benicia-Vallejo Express Bus Service

Improvement #5 in the Conceptual Definition of Long Range Improvements entails providing express bus services from the El Cerrito del Norte BART station, through Vallejo and Benicia to the Concord/Pleasant Hill BART station. This service would enhance the transit service between Benicia and Vallejo, and provide Vallejo and Benicia residents with a transit connection to employment centers in the East Bay, San Francisco, Concord and Central Contra Costa County.

There are numerous routings that could be used to provide this service. This service could be operated as one continuous route or as two routes with a timed transfer point in Benicia or Vallejo.

Service would operate between 15 and 30 minutes apart during the evening and morning peak hours and hourly during the mid-day, Monday through Friday. Hourly service would be provided on Saturdays.

This service would require approximately 8 to 12 buses during the peak periods depending on the frequency of the service provided. Given the existing vehicle resources of the two Cities, between three and seven additional transit vehicles would be required for this service. The transit vehicles plus other required capital expenditures (bus stop signs, etc.) to start this service are expected to cost between \$600,000 and \$1.2 million. Wilbur Smith and Associates estimated annual operating expenses to be between \$1.0 million and \$1.5 million.

The institutional and financial arrangement between the City of Vallejo and the City of Benicia for providing this type of service could take a few varying forms, as follows:

Purchase-of-Service Agreement: Each city currently purchases service from private contractors. In the future, they could coordinate their purchase of express bus service. For example, Vallejo could contract to provide some or all of Benicia's service. Alternatively, both cities could agree to purchase service from the same contractor, which would then provide a single consolidated service to both cities. AC Transit has expressed interest in providing contract service, which could also be coordinated with AC Transit's existing service in the Corridor. Under this arrangement, each City Council would remain the governing body of its own transit service. Benicia and Vallejo would continue to claim funds separately. The Cities would need to develop a funding formula for the services provided, but voter approval would not be necessary.

Joint Powers Agency: The Cities could form a Joint Powers Agency (JPA) which would encompass either just the express bus services or all of the transit services operated by both cities. A joint board (e.g. representative members from each city council) would be established to oversee the transit services provided in the Benicia-Vallejo area. The JPA would directly claim federal, state and local transit funds available to the two cities for the transit services provided. The JPA would consolidate transit system planning and administration for the Benicia-Vallejo transit service area. Voter approval would not be necessary to implement a JPA.

New Transit Agency: State legislation would be necessary to enable the Cities to establish a Transit District for the Benicia-Vallejo transit service area. The District would have a locally elected or appointed Board of Directors, separate from the city's individual city councils. Federal and state transit funding would be claimed directly by the District.

Provision of service under the various arrangements described above would increase the service area and service level provided in the Benicia-Vallejo area. As a result, the amount of UMTA Section 9 federal operating assistance available to Benicia-Vallejo might increase.

To implement this express bus service, the service operations (routes and schedules) and the financial and institutional arrangements between the two cities would have to be examined in detail. This can be accomplished by the cities jointly contracting with a consultant to examine and recommend specific routes and service provisions.

CONSOLIDATION/COORDINATION DURING OFF-PEAK HOURS

During off-peak hours, BART, AC Transit and Vallejo all provide bus service to BART. Considerable inter-operator coordination already exists, including provision of reciprocal transfers. Additional coordination, or consolidation of some service, would alleviate duplicative service and reduce overall operating costs. Routing options include extending BART's "J" route into Vallejo, or establishing a timed transfer between Vallejo's express bus and BART's "J" route and truncating one of the routes at the transfer point. The consolidated/coordinated service could be operated via a Joint Powers Agency or Purchase-of-Service Agreement, and would require agreement on a funding formula. Although consolidation/coordination could occur at any time; it is anticipated that negotiations will not begin until decisions on the Benicia-Vallejo service have been implemented.

FAIRFIELD EXPRESS BUS SERVICE

Improvement #6 in the Conceptual Definition report entails express bus service from the Fairfield/Suisun City area through Vallejo and Benicia to the Concord and El Cerrito del Norte BART stations. The operating plan for Improvement #6 indicates that there are a number of routing options for this type of service. The institutional and financial arrangements for this type of service could take any of several forms, as follows:

Purchase-of-Service Agreement: Purchase of service agreements involve the Cities contracting with each other to provide this service. For example, the City of Fairfield could operate or contract to operate the service and Suisun City, Vallejo and Benicia could contract with Fairfield for the services provided in their service areas.

Joint Powers Agency: A joint powers agency including Solano County and the cities served (e.g. Fairfield, Suisun City, Benicia and Vallejo) could be established. Under this arrangement, the parties to the JPA would need to develop a funding formula to determine the amount of support each agency would provide for this service. The JPA could establish a joint policy board (e.g. representatives from the County and each City) to oversee the transit service. Voter approval would not be needed to implement the JPA.

Solano County Transit Authority/District: A more encompassing arrangement for providing and funding intercity transit services entails forming a Countywide Transportation Authority or Transit District that would include the County and all the Cities of Solano County. The Authority or District would consolidate operations, planning, and administration of the transit services within and between the Cities of Solano County, much like the current Solano County Transportation Council for elderly and handicapped transit services. The Transit Authority or District would be managed by a policy board with representation from throughout the County. The Authority/District would claim local, state and federal transit funds directly. A Transit Authority could be formed as a JPA. A Transit District would be formed by special State Legislation.

It is recommended that the Benicia and Vallejo begin discussions aimed at consolidating their express bus services. A "Scope of Work" for a consultant contract defining routes and service should be completed by February, 1988, and consolidation of service should occur by December, 1988.

Once the consolidated Benicia-Vallejo Express Bus Service is in operation, a second round of discussions should begin, aimed at service coordination with BART and/or AC Transit.

C. AMTRAK UPGRADE

EXISTING SETTING

Long range improvement #11, Amtrak Upgrade, entails upgrading rail passenger service from Sacramento to Oakland by adding eight new round trips, decreasing travel time from 2 hours to 90 minutes, and providing equipment (AMFLEET) appropriate for shorter intercity trips.

Amtrak currently operates two interstate rail passenger routes through the Sacramento-Oakland corridor. The Coast Starlight (Seattle to San Diego) makes two daily trips (one northbound and one southbound) with local stops at Sacramento, Davis, Martinez, Richmond and Oakland. The California Zephyr (Oakland-Chicago) also makes two daily trips, with the same stops as the Coast Starlight, in addition to a Suisun-Fairfield stop. These interstate trains are unsuitable for daily commute trips in the Sacramento-Oakland corridor. Schedules generally do not conform with peak commute periods and trains often run behind schedule. Further, accommodation on the Coast Starlight often has to be booked in advance because of its popularity.

FUTURE OPTIONS

Amtrak

Before operating any additional service, Amtrak would have to secure approval from the Southern Pacific Transportation Company. Amtrak currently operates service through the Sacramento to Oakland corridor on SP's freight mainline. Southern Pacific could refuse to allow operation of additional passenger service claiming that it would conflict with its rail freight service even though rail freight has dropped off in recent years. Any conflicts between Amtrak and SP are negotiated by a National Arbitration Panel. Decisions rendered by the Panel thus far have favored passenger rail.

Southern Pacific would probably require a cost-sharing arrangement for upgrading the tracks between Sacramento and Martinez to accommodate the faster travel times. A capital cost sharing arrangement for track improvements is currently being negotiated for Amtrak's service in Southern California.

Amtrak would require local funding to provide the increased Sacramento-Oakland service. Funding would most likely be provided either by Caltrans or a Joint Powers Agency consisting of the counties of Sacramento, Yolo, Solano, Contra Costa and Alameda.

Caltrans

Caltrans is allowed by state law (Section 14035 (a) of the Government Code) to contract with Amtrak under Section 403 (b) of the Rail Passenger Service Act of 1970 for commuter and intercity rail passenger service. State law (Governmental Code Sections 14035(b) and 14038) authorizes Caltrans to construct, lease, or improve passenger stations and track in the San Jose-Oakland-Sacramento-Reno corridor.

Caltrans currently administers 403(b) contracts with Amtrak for rail passenger service between Oakland and Bakersfield (San Joaquin) and Los Angeles to San Diego (San Diegans). It currently funds two round trips (4 trains) on the San Joaquin and three round trips (6 trains) on the San Diegans, but Caltrans does not have direct control over scheduling, fares or other daily operation of 403(b) service. Section 403(b) requires a contractor to pay Amtrak a) at least 45 percent of the net operating subsidy (or avoidable cost) in the first year and 65 percent thereafter; and b) 50 percent of any capital improvements made to the service, including 50 percent of any depreciation of locomotives and cars. Caltrans' cost for the three daily round trips on the San Diegans was \$1.1 million in FY 1985/86. This included 65 percent of \$766,000 operating deficit, plus \$600,000 for depreciation of rolling stock. Caltrans expects a reduction in Amtrak costs due to recent negotiations of labor contracts and implementation of push-pull service.

In 1976, the Legislature appropriated funds for additional rail service in the Sacramento-San Francisco and Los Angeles-San Diego corridors (Statutes of 1976, Chapter 1349). The San Diegans service was implemented as a result of this legislation. Sacramento-to-San Francisco service was not implemented because of scheduling and operating difficulties with Southern Pacific and weak political support. Current state policy is to continue to operate existing state supported 403(b) service, but not to support any new service.

Joint Powers Agency

The Counties of Sacramento, Yolo, Solano, Contra Costa, and Alameda could form a Joint Powers Agency (JPA) to contract with Amtrak for 403(b) service. Formation of a JPA to contract for 403(b) service, while currently not being

done in the State, is not unprecedented. TDA regulations (Public Utilities Code Section 9924.5(a)), authorize the counties of San Bernadino, Riverside and Los Angeles to form a JPA to contract directly with Amtrak for 403(b) service between Los Angeles and San Bernadino. Although this service has not been operated, its reasonable to assume that legislation could be passed to allow formation of a JPA to provide 403(b) service between Oakland and Sacramento.

State law (Public Utilities Code Section 99234a) allows counties and cities to use Transportation Development Act funds (TDA) to contract through Caltrans for provision of 403(b) service. However, the majority of the TDA funds apportioned to Solano, Contra Costa and Alameda counties are committed to funding existing transit services. Unless a new funding source was created, the JPA might not be viable.

The JPA could contract directly with Amtrak without going through Section 403(b) regulations. Existing TDA regulations would have to be amended to allow Alameda and Contra Costa Counties to use TDA funds to contract with Amtrak for service; Solano County is allowed to contract with Amtrak using TDA funds. One drawback would be that the counties would have to pay 100 percent of the marginal costs instead of a maximum of 65 percent under 403(b). The counties would have direct responsibility for administration of the contract, including setting schedules and fares. Several public agencies in the northeast corridor currently contract directly with Amtrak for intercity and commuter rail service.

D. BART EXTENSION INTO SOLANO COUNTY

EXISTING SETTING

BART (Bay Area Rapid Transit District) was created by a ballot measure in Alameda, Contra Costa and San Francisco Counties. The nine members of the Board of Directors are elected, and represent districts within each county.

Section 29034.5 of the State Public Utilities Code requires BART to construct extensions to Antioch, Pittsburg, Pleasanton and the northwest section of San Francisco before district funds can be expended on service outside of its current boundaries (excluding the Daly City Turnback and Yard project). This section allows extension of rail service into Solano County, but prevents BART from using its own funds to finance either construction or operation of the proposed extension. Use of federal, regional, or local Solano County funds is not precluded.

FUTURE OPTIONS

There are two options available for extension of BART rail service into Solano County: annex Solano County into BART, or establish a purchase of service agreement between BART and Solano County. Either option would require a substantial capital investment by Solano County for extension of rail service.

Annexation

Annexation of Solano County to BART would require a majority vote of the electorate in a countywide election. The BART Board would be required to enter into an agreement with Solano County's Board of Supervisors on the terms and conditions of annexation. Section 29502 of the Public Utilities Code requires that BART be reimbursed for Solano County's equitable share of previous capital expenditures on the entire BART system. BART's reimbursement from a newly annexed county is negotiable. The restrictions on service extensions contained in Section 29034.5 would also preclude BART funds from being used to pay the operating costs of BART service into Solano County.

Purchase-of-Service Agreement

A BART extension into Solano County without annexation would require BART to enter into an agreement with the County on the terms of financing, construction, operation, and ownership of the extension. These terms would probably be similar to those negotiated if Solano County was annexed to BART. Sections 29031 and 129034 of the Public Utilities Code allow BART to enter into an agreement to acquire, construct, own, operate, control, or use rights-of-way and facilities, and establish through routes outside of the BART district.

Under this agreement, the extension could be wholly owned, operated, and constructed by BART with Solano County providing the local match for federal grants for the capital and operating costs, or alternatively, the extension could be constructed and owned by Solano County and operated under a purchase of service agreement with BART. Regardless of whether BART or Solano County owns the proposed extension, Solano County voters would have to vote to assess a special tax and sell bonds to finance the capital and operating costs required for a BART extension.

Portions of right-of-way for the BART alignment would occupy property that is currently used by Santa Fe and Southern Pacific for rail freight service, and north of Cordelia Junction, Amtrak operates passenger service on Southern Pacific's mainline. Securing use of these rights-of-way from the railroads may be difficult, particularly Southern Pacific's mainline right-of-way between the Cordelia Junction and Air Base Parkway in Fairfield.

Solano County would not be represented on the BART Board of Directors unless it was annexed. However, some control over service and fares could be included in the terms of a purchase service agreement with BART.

E) LIGHT RAIL AND COMMUTER RAIL OPTIONS

EXISTING SETTING

Other than BART and Amtrak, there is no existing rail transit service in the Corridor.

FUTURE OPTIONS

The Conceptual Definition of Long Range Improvements report identified the following four options entailing LRT or commuter rail:

- o Improvement 7: Concord-Richmond Commuter Rail/Ferry Service
- o Improvement 8: San Pablo Avenue LRT
- o Improvement 9: Richmond-Fairfield Light Rail
- o Improvement 10: Concord-Fairfield Light Rail.

Commuter Rail

The Concord-Richmond commuter rail could be funded and operated by BART, by a Joint Powers Agency consisting of the County Connection WESTCAT, BART, and the County, or by a private railroad.

BART would be a logical operator of the proposed commuter rail system because the line is entirely within the BART district and would originate at BART's Concord station and might connect to the Richmond station. BART could operate the system with its own crews or contract with a private railroad company to operate the service. The Massachusetts Bay Transit Authority (MBTA), for example, currently contracts with Amtrak for provision of commuter rail service. However, nearly all contracted commuter rail service in the United States is operated with publicly leased or owned rolling stock. BART would have to lease or purchase rolling stock, negotiate track rights with Santa Fe and Sacramento Northern, and fund any required improvements to tracks or facilities. UMTA might require BART to control the right-of-way through purchase or a long-term lease prior to funding purchase of rolling stock and facilities. The operating subsidy could come from current funding sources, and might entail re-allocating TDA funds currently claimed by local bus operators (AC Transit, County Connection, WESTCAT and BART).

A Joint Powers Agency could be formed to finance the service. A JPA would probably be necessary if existing funds were re-allocated to finance the commuter rail service. The JPA would probably contract with a private railroad for service, with implications similar to the service above.

A private railroad company could independently operate a commuter service. A recent ICC decision requires the Santa Fe Southern Pacific Corporation to sell off at least one of its rail lines. However, it is unlikely that a regional railroad operator purchasing the line to operate a short haul freight service could operate a commuter service without public subsidy, given the limited potential for commuter service patronage.

Light Rail

Both the Richmond-Fairfield LRT and Concord-Fairfield LRT would entail service beginning at a BART station and extending through portions of Solano and Contra Costa Counties on new tracks placed in existing railroad rights-of-way. The LRT service could be provided by BART and Solano County, a JPA, or a new transit district.

A LRT system could be jointly financed and owned by BART and Solano County and operated under a purchase of service agreement with BART or some other responsible rail operator. There currently are not any private LRT operators providing extensive intercity service in the U.S. Solano County might have to create a special agency or transit district to own and help operate the system, and enter into an agreement with BART for provision of service or joint use of tracks connecting the Richmond or Concord BART station.

A joint exercise of powers agency could be formed, and could use TDA funds to partially finance capital and operating costs. If a JPA was formed, it would probably consist of Contra Costa and Solano counties, and each of the cities along the rail line. The proposed LRT systems would go through service areas currently covered by AC Transit, WestCAT and Vallejo Transit Lines (Richmond to Fairfield) or CCCTA (Concord to Fairfield). These transit agencies currently claim the entire TDA apportionment available to their respective agencies. Solano and Contra Costa counties are not expected to generate enough TDA funds to finance both their existing transit systems and operate the proposed LRT. These local funding limitations would point to the need to form a special agency or transit district. The transit district should have the authority to levy a local transportation tax and float bonds to finance the capital and operating expenses. A measure to create a transit district would have to be passed in half of the cities included in the district boundaries, or by a petition of 10 percent of the total voters in each county. Further, State legislation would have to be passed to authorize the formation of a new transit district. Any local tax or bond measure would be subject to voter approval within the district boundary.

The San Pablo Avenue LRT also could be operated by a variety of institutions. It could be owned and operated by AC Transit, with Caltrans and the cities granting a casement for use of San Pablo Avenue. A JPA or separate district could also be established, similar to the above discussion.

F. HIGH SPEED WATER TRANSIT

EXISTING SETTING

The Red & White Fleet currently operates commuter and excursion ferry service between Vallejo and San Francisco using 400 passenger high-speed catamaran vessels. A morning commute run departs Vallejo and an evening commute run departs San Francisco. There are three mid-day round trips and five weekend round trips between Fisherman's Wharf (Pier 41) and Vallejo serving tourists and visitors to Marine World. Fares are \$5.95 for a one-way adult ticket, \$4.95 per ride for a commute book of 18 tickets, or \$3.98 per ride for a \$175 monthly pass (based on 44 rides per month). The ferry system carries more tourists than commuters, and cut back commute period service in September.

Until recently, there had been major legal constraints to operating Transbay ferry service within 10 miles of toll bridges with outstanding bonds. However, Streets and Highway Code Section 30352 was amended in 1986 by SB 846 to exclude ferry service operated by common carriers subject to Public Utilities Commission jurisdiction from the prohibition of ferry operations within 10 miles of all toll bridges crossing San Francisco Bay. Further, legislation passed in 1987 (AB 3) allows the State to refinance existing outstanding bonds to get a more favorable interest rate. New bonds have been issued, and do not contain the covenant that restricts Transbay ferry service.

The Merchant Marine Act of 1920 (known as the Jones Act) is an existing Federal Statute that also effects high speed water transit service. The Jones Act requires waterborne passenger vessels to be U.S. built, documented and owned. There are U.S. manufacturers of both hydrofoils and catamarans. Catamarans are currently being used for ferry service on the Bay by both the Blue and Gold and Red and White fleets.

FUTURE OPTIONS

The Conceptual Definition of Long Range Improvements report identified high speed ferry service from Point Richmond to San Francisco as an option deserving further analysis. Such commute service would most likely be managed and operated by a private provider such as the Red and White Fleet or Blue and Gold Fleet. These operators have made substantial capital investments in vessels and fixed facilities and would have relatively low start-up costs. Furthermore, it's unlikely that public funds would be used to subsidize ferry service operations that would essentially duplicate the existing Transbay service provided by AC Transit and BART.

Several land-side issues would need to be resolved before ferry service could begin operation. The Conceptual Definition report states that a ferry terminal at Point Richmond would probably include a park-and-ride lot, bus interface area, maintenance facilities, and a passenger processing terminal. A public/private partnership might be needed to assemble property and financing for the land-side improvements. For example, the City of Vallejo plans to pay for the permanent dock and terminal facilities for the Red and White Fleet, including a parking garage for 500 vehicles. A public/private partnership might also be necessary to provide street and transit access to a Point Richmond terminal. MTC should re-examine ferry service for commuters in the early 1990's, once the Vallejo-San Francisco service has matured and 1990 Census data is available.

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